IN THE CLAIMS:

1-30. (Canceled)

31. (Previously Presented) A transgenic fish selected from the group consisting of zebrafish and medaka fish, whose genome comprises a transgene comprising a gene encoding a gene product wherein the gene product is i) an ablation promoting moiety, or ii) a coupled expression system consisting of an ablation promoting moiety and a cellular reporter protein that facilitates detection of cells expressing the transgene, wherein the ablation promoting moiety comprises at least one component of a pro-drug conversion system, and wherein the gene is operably linked to a regulatory DNA sequence including at least a promoter element that regulates the expression of the gene encoding the gene product such that the gene is expressed in a reproducible spatial and temporal pattern in the fish.

32. (Canceled)

33. (Previously presented) The transgenic fish of Claim 31 wherein the regulatory DNA sequence is of homologous origin, being from the same species as that of the transgenic fish.

34. (Previously presented) The transgenic fish of Claim 31 wherein the regulatory DNA sequence is of heterologous origin, being from a species that differs from that of the transgenic fish.

35. (Canceled)

36. (Previously Presented) The transgenic fish of Claim 31 wherein the regulatory DNA sequence specifies cell-type specific expression of the gene product.

37-42. (Canceled)

43. (Previously Presented) The transgenic fish of Claim 31 wherein the gene encoding the gene product is expressed in cells, cell types, or tissues that are relevant to modeling specific diseases, disorders, or conditions believed to be causally linked to the loss,

or functional compromise, of the cells, cell types, or tissues expressing the gene encoding the gene product.

44. (Currently amended) The transgenic fish of Claim 31 wherein the gene encoding the gene product is specifically expressed in at least one of muscle cells, ~~glial cells, pancreatic cells,~~ liver cells, ~~kidney cells,~~ vascular cells, neuronal cells, heart cells, cartilage cells, and bone cells.

45. (Previously Presented) A transgenic fish selected from the group consisting of zebrafish and medaka fish, whose genome comprises a transgene comprising a gene encoding a gene product wherein the gene product is i) an ablation promoting moiety, or ii) a coupled expression system consisting of an ablation promoting moiety and a cellular reporter protein that facilitates detection of cells expressing the transgene, wherein the ablation promoting moiety comprises at least one component of a pro-drug conversion system, and wherein the gene is operably linked to a minimal promoter element such that an enhancer trap strategy is facilitated, whereby random integration of the transgene into the genome of the fish causes expression of the gene encoding the gene product to come under the control of an enhancer element which by becoming operably linked to the gene encoding the gene product serves to promote expression of the gene in a specific reproducible spatial and temporal pattern in the fish.

46. (Previously Presented) The transgenic fish of Claim 45 wherein the gene encoding the gene product is expressed in cells, cell types, or tissues that are relevant to modeling specific diseases, disorders, or conditions believed to be causally linked to the loss, or functional compromise, of the cells, cell types, or tissues expressing the gene encoding the gene product.

47. (Currently Amended) The transgenic fish of Claim 45 wherein the gene encoding the gene product is specifically expressed in at least one of muscle cells, ~~glial cells, pancreatic cells,~~ liver cells, ~~kidney cells,~~ vascular cells, neuronal cells, heart cells, cartilage cells, and bone cells.

48. (Previously Presented) A transgenic fish selected from the group consisting of zebrafish and medaka fish, whose genome comprises a transgene comprising a gene encoding a gene product wherein the gene product is i) an ablation promoting moiety, or ii) a coupled expression system consisting of an ablation promoting moiety and a cellular reporter protein that facilitates detection of cells expressing the transgene, wherein the ablation promoting moiety comprises at least one component of a pro-drug conversion system, and wherein the gene is operably linked to a minimal promoter and an upstream activator sequence (UAS).

Claims 49-51. (Canceled)